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NAS PATUXENT RIVER, MD
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**FINAL PROPOSED REMEDIAL ACTION PLAN MUNITIONS RESPONSE SITE
UNEXPLODED ORDNANCE 1 (UXO 1) FORMER AERIAL BOMBING RANGE
WEBSTER FIELD ANNEX NAS PATUXENT RIVER MD**

10/01/2019
CH2M HILL

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Proposed Remedial Action Plan

Munitions Response Site UXO-0001

Former Aerial Bombing Range

Webster Field Annex

St. Inigoes, Maryland

October 2019

This **Proposed Remedial Action Plan (PRAP)**¹ identifies the rationale and preferred remedial alternatives for Munitions Response Site (MRS) UXO-0001, at Webster Field Annex (Webster Field) in St. Inigoes, Maryland (**Figure 1**). This document is issued by the **Department of the Navy (Navy)**, the lead agency for site activities, and the **Maryland Department of the Environment (MDE)**. The proposed remedial alternative for UXO-0001 is “Partial Land Use Controls and Partial No Further Action.” The Navy’s objective is to achieve unrestricted future land use for UXO-0001.

This document satisfies the public participation requirements of Section 117(a) of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** and the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** Section 300.430(f)(3). The purpose of the PRAP is to describe the preferred cleanup alternative and the other alternatives that were considered and to facilitate community involvement that is critical to selection of a final remedy. Public comment is invited and encouraged on the preferred alternative of “Partial Land Use Controls and Partial No Further Action” at UXO-0001 – Former Aerial Bombing Range. Information on how to participate in this decision-making process is presented in Section 10, Community Participation.

1 Introduction

Webster Field, under the command of **Naval Air Station (NAS)** Patuxent River, is located in St. Inigoes, Maryland, approximately 15 miles by road south of NAS Patuxent River (see **Figure 1**). Established in the early 1940s, Webster Field comprises approximately 850 acres. The facility was originally used as a dispersal field in the event of aerial attacks during World War II and as an auxiliary landing field for NAS Patuxent River. The facility is currently used principally for the Naval Air Warfare Center Aircraft Division (NAWCAD), Coast Guard Station-St. Inigoes, and the Maryland Army National Guard.

UXO-0001 at Webster Field is part of the **Environmental Restoration (ER)** Program for NAS Patuxent River. A **Remedial Investigation (RI)/Feasibility Study (FS)** was completed for UXO-0001 under the Navy, Naval Facilities Engineering Command (NAVFAC) Washington, Comprehensive Long-term Environmental Action Navy (CLEAN) 9000 Program, Contract N62470-16-D-9000, Contract Task Order (CTO) JU18, and submitted to the Navy and MDE. The RI portion is an in-depth study designed to gather data needed to determine the nature and extent of **contamination** at a site and to estimate the potential risks posed to people,

plants, and animals by exposure to contamination at the site. During the FS process, after the development and evaluation of multiple alternatives with the potential to address the risk(s) identified for a site, a preferred remedial alternative is identified. The PRAP explains the history of UXO-0001 and presents the findings and results of the RI/FS (CH2M, 2019).

UXO-0001, also known as the Former Aerial Bombing Range, was used for air-to-ground, inert rocket, and practice bombing activities during the 1940s and 1950s. The 22-acre unexploded ordnance (UXO) site is located adjacent to and just south of the runways at Webster Field on the southern half of the facility (**Figure 1**). The UXO-0001 RI/FS characterized the munitions and environmental components at the site. A baseline **Human Health Risk Assessment (HHRA)** was conducted to evaluate potential human health risks associated with exposure to surface soil and subsurface soil under current and future land use scenarios. Additionally, an **Ecological Risk Assessment (ERA)** was performed to evaluate whether exposure to surface and subsurface soil posed risks to ecological receptors at the site.

¹ All terms presented in **bold print** are defined in the glossary.

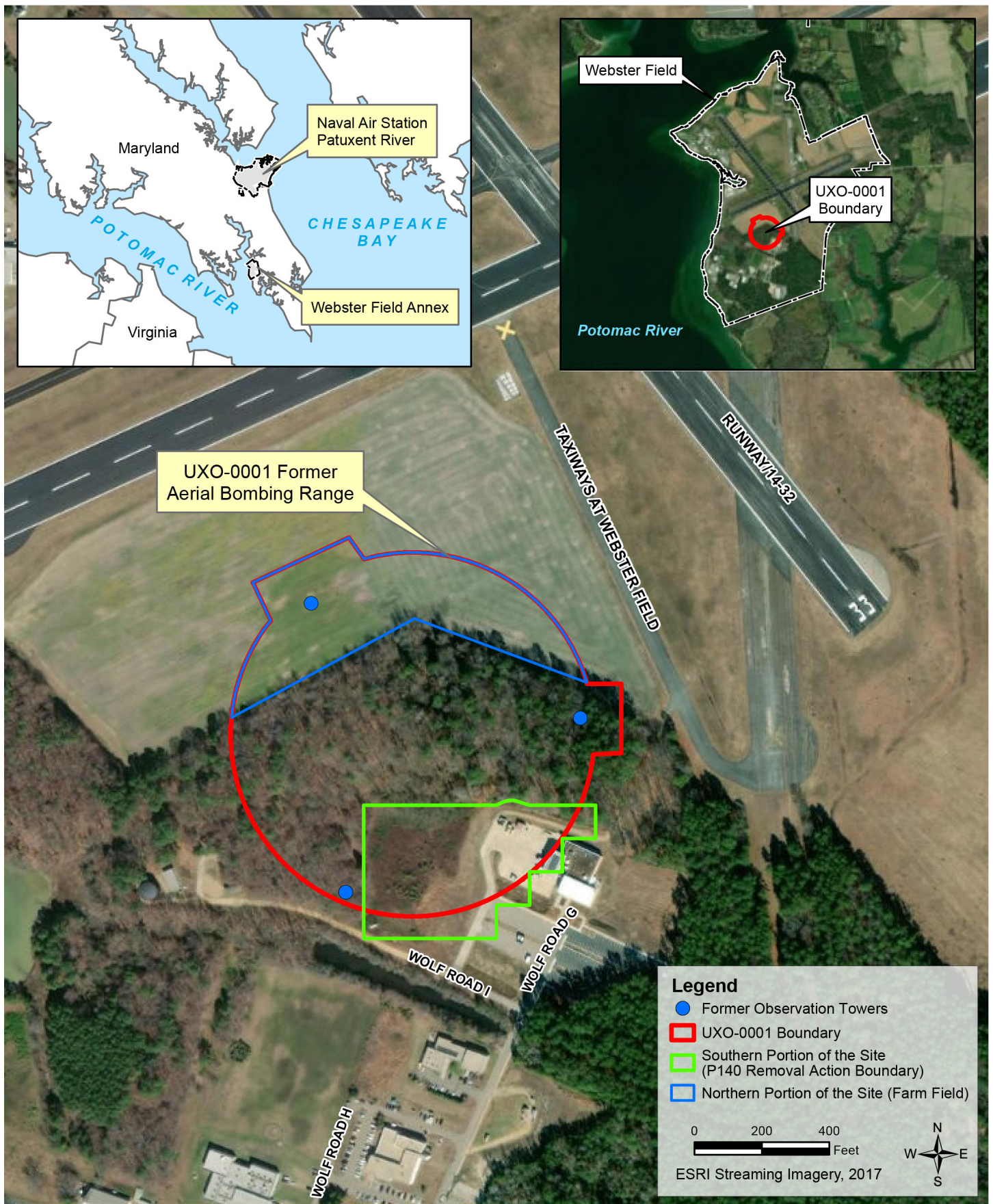


Figure 1 - UXO-0001 Location

Based on the site characterization and risk assessment findings identified in the RI/FS, remedial alternatives were evaluated in FS portion for UXO-0001 to address potential hazards associated with potential munitions and explosives of concern (MEC) and material potentially presenting an explosive hazard (MPPEH) for current and anticipated future land uses. The preferred remedial alternative for UXO-0001 is “Partial Land Use Controls and Partial No Further Action.”

This PRAP contains a summary of information presented in the RI/FS report, as well as information regarding previous removal actions at the site. More details on the information summarized in this PRAP are presented in the RI/FS report and other documents referenced. These documents are available in the **Administrative Record** file located at the public repositories for NAS Patuxent River (the pertinent documents and the Administrative Record locations are identified in Section 10 of this PRAP).

The Navy and MDE will make a decision on the final selected remedy for UXO-0001 after reviewing and evaluating all written and oral comments submitted during the 30-day **public comment period**. The Navy and MDE may alter the preferred alternative or select another action based on any new information or public comments.

The public plays an active part in selecting the remedial action and is encouraged to provide feedback on this PRAP. After the public comment period has ended, the comments and information submitted have been reviewed and considered, then the Navy, in conjunction with MDE, will document the final selected remedy for UXO-0001 in a **Record of Decision (ROD)**. Any comments or questions received during the comment period will be documented in the **Responsiveness Summary** section of the ROD.

Webster Field originally had three intersecting runways. During World War II, an aerial bombing target (referred to as the Former Aerial Bombing Range) was located adjacent to and just south of the runways on the southern half of the facility (**Figure 1**). The Former Aerial Bombing Range, which is now referred to as UXO-0001, contained three observation towers and was used for 5 to 8 years in the 1940s and early 1950s (Tetra Tech NUS, 2010). Aerial photographs from 1954 show that the access roads to the observation towers were overgrown, implying that the range was no longer in use by 1954. The size and configuration of the former range is unknown, but the original 21-acre boundary for UXO-0001 was estimated based on the locations of the three observation towers.

The current site boundary covers 22 acres. The original 21-acre boundary was redrawn for the 2014 Digital Geophysical Mapping (DGM) survey to include two “bump-out” areas associated with the former northwestern and eastern observation tower locations, which are 0.6 and 0.4 acre in size, respectively, because numerous anomalies were encountered near these two former observation towers during the 2012 DGM survey. The site contains a central wooded section encompassing approximately 12.4 acres, which is bounded to the north by an open area of approximately 5.8 acres which has been used for farming activities and to the southeast by an open area of approximately 3.8 acres that includes an asphalt parking lot, asphalt access roads, and adjacent grass areas related to the P-140 Communication Engineering Building. The open area in the southeastern portion of the site was cleared of all magnetic anomalies in 2012 and the open area in the northern portion of the site was cleared of all magnetic anomalies in 2015-2016. Approximately 5.6 acres of the central wooded portion of the site are delineated **wetlands**. The wetland and interior forested areas are fairly open with low-lying areas present but standing water does not appear to persist for long durations within the wetland areas. In February 2014, the central wooded areas were reduced in vegetation with ground cover mulched and tree limbs pruned from six feet in height to ground. A **conceptual site model (Figure 2)** illustrates the key features of UXO-0001.

According to the **Preliminary Assessment (PA)** performed for Webster Field, the Former Aerial Bombing Range was used for air-to-ground, inert rocket, and practice bombing activities during the 1940s and 1950s (Tetra Tech NUS, 2010). The PA indicated that inert air-to-ground rockets and practice bombs would have been used for the target area because of firing

range restrictions and altitude limitations. The PA stated that the MK-23, 3-pound practice bomb was a typical practice bomb used during the 1940s on this small target area. The PA did not indicate the types of rockets used; however, the 2.75-inch aerial practice rocket with an inert warhead may have been used. These inert practice rockets likely would have utilized the 2.75-inch MK-40 rocket motor to deliver the inert warhead (such as the WTU-1/B). During the PA, it was anticipated that the practice items may have penetrated the ground surface upon impact; therefore, those ordnance items may have been shallowly buried (Tetra Tech NUS, 2010).

Previous Investigations and Response Actions

Environmental investigations have been conducted at UXO-0001, beginning in 2010. **Table 1** presents a chronological list of the UXO-0001 studies and interim actions that briefly summarize the purpose, scope, and results.

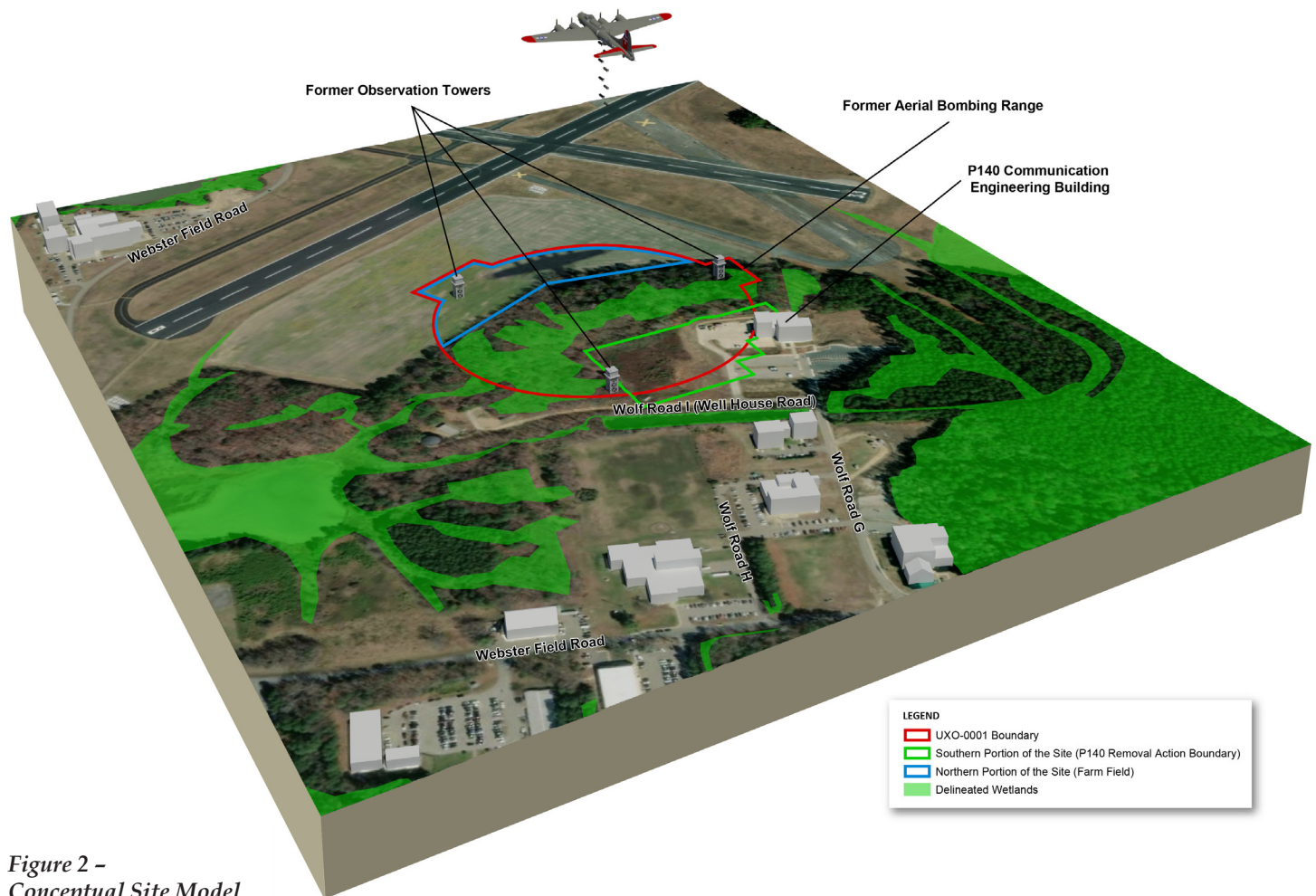


Figure 2 -
Conceptual Site Model

Table 1 – Summary of Previous Investigations

Year/Activity	Key Findings
2010 Preliminary Assessment	The PA for UXO-0001 was completed by Tetra Tech NUS in 2010. The site was researched to identify potential MEC and MPPEH. Based on the site history, probable munitions used at UXO-0001 included practice bombs (MK-23) and practice rockets (likely MK-40) with inert warheads. According to the PA, there were no known MEC areas associated with the site, although there were suspected areas of MEC (Tetra Tech NUS, 2010).
2012 Expanded Preliminary Assessment	An Expanded PA for UXO-0001 was completed by CH2M HILL in 2012. Additional historic research was conducted and inaccurate information presented in the PA was corrected. In general, these supplemental findings were mainly used to clarify discrepancies discovered in the original PA; no significant changes were made to the original findings and no additional munitions sites were identified at Webster Field. Moving forward, the findings of the PA (2010) and Expanded PA (2012) formed the basis of Navy decision-making related to the investigation of munitions use and disposal at Webster Field (CH2M, 2012).
2012 Digital Geophysical Mapping	Visual inspection and DGM survey activities were completed by CH2M HILL and NAEVA Geophysics in March 2012 covering a total of 19 acres at Webster Field, including approximately 15 acres within the UXO-0001 boundary and an additional 4 acres associated with the P140 MILCON area, located outside the southeastern portion of UXO-0001. This initial DGM phase included all areas of the site except for the delineated wetlands, which were deemed not accessible at the time of investigation. The DGM survey was conducted with the objective of locating subsurface metal potentially associated with MEC and/or MPPEH using a Geonics EM61-MK2, which is a high-resolution time-domain electromagnetic instrument that detects shallow ferrous and nonferrous metallic objects. Surface clearance was performed ahead of the DGM survey. MEC and MPPEH were not identified on the ground surface; however, numerous subsurface anomalies were identified.
2012 P140 MILCON Removal Action	<p>Based on the 2012 DGM survey, a removal action was performed in July/August 2012 to support the P140 MILCON project, which included construction of a concrete pad and access road, building, asphalt parking lots, and associated underground utilities. The P140 MILCON project was performed across a total of 4.9 acres, 3.8 of which are located within the southeastern quadrant of UXO-0001. At the time of the removal action, the P140 MILCON area was undeveloped and clear of large vegetation (unwooded); the removal action investigated and removed 100 percent of the detectable anomalies. In accordance with the planned activities, a total of 238 DGM anomalies were reacquired, intrusively investigated, classified, removed, and disposed. The removal was verified and documented in an After Action Report (AGVIQ-CH2M HILL, 2012).</p> <p>The findings of the 2012 P140 removal action were consistent with and support the historically-based CSM for UXO-0001, which suggests that only practice munitions were used at the Former Aerial Bombing Range. No MEC was identified, and the intrusive investigation recovered the following items that were initially classified as MPPEH:</p> <ul style="list-style-type: none"> • Eighteen 3-pound practice bombs (MK-23) <ul style="list-style-type: none"> – depths ranged from 12 to 42 inches • Two 5-inch practice high velocity aircraft rocket warheads (MK-1) <ul style="list-style-type: none"> – depths ranged from 28 to 42 inches • Three pieces/parts of 3-pound practice bombs (MK-23) <ul style="list-style-type: none"> – depths ranged from 20 to 30 inches • One 3.5-inch forward firing rocket motor <ul style="list-style-type: none"> – depth of 36 inches • One practice bomb, 100-pound M38A pieces (fins and body pieces) <ul style="list-style-type: none"> – depth of 30 inches • One aircraft bomb fuze M-154, partial <ul style="list-style-type: none"> – depth of 12 inches • Eleven small arms ammunitions (shotgun shells/casings) <ul style="list-style-type: none"> – depths ranged from ground surface to 12 inches <p>All MPPEH items were ultimately certified as material documented as safe (MDAS) and were disposed accordingly. No MEC was recovered.</p>
2014 Digital Geophysical Mapping	Visual inspection and DGM survey activities were completed by CH2M HILL and NAEVA Geophysics in February 2014 for the remaining 7 acres at UXO-0001 not included in the 2012 DGM survey. The area for this second DGM phase included the delineated wetlands and two “bump-out” areas associated with the former northwestern and eastern observation tower locations. The DGM survey was conducted with the objective of locating subsurface metal potentially associated with MEC and/or MPPEH using a Geonics EM61-MK2. Surface clearance was performed ahead of the DGM survey. MEC and MPPEH were not identified on the ground surface, and only cultural debris consisting of a few aluminum cans were recovered. As with the 2012 DGM survey, numerous subsurface anomalies were identified during the 2014 DGM survey.

Table 1, cont. – Summary of Previous Investigations

Year/Activity	Key Findings
2015/2016 Anomaly Investigation	<p>An anomaly investigation was conducted by Bering Sea Eccotech from August 2015 to October 2016. The project was broken into four separate mobilizations (August/September 2015, January/February 2016, July 2016, and October 2016). The initial scope of work included reacquisition, identification, excavation, removal, treatment (if required), disposal, and data tracking of 949 individual anomalies and 3 anomaly clusters within the boundary of UXO-0001. This was done to characterize the nature of anomalies within the site by investigating a statistically significant subset to achieve the specified confidence level. The initial 949 anomalies were located in the central and northern portions of the site and selected randomly based on a statistical analysis. An additional 534 individual anomalies located in the open area in the northern portion of the site were added to the scope of work in December 2015 to clear this portion of the site of all magnetic anomalies.</p> <p>The intrusive investigation recovered the following items:</p> <p>MPPEH</p> <ul style="list-style-type: none"> • Twelve 3-pound practice bombs (MK-23) <ul style="list-style-type: none"> – depths ranged from 2 to 32 inches <p>MEC</p> <ul style="list-style-type: none"> • Seven 20-pound fragmentation bombs, unfuzed (AN-M41A1) <ul style="list-style-type: none"> – depths ranged from 3 to 36 inches • One 100-pound general purpose bomb, unfuzed (AN-M30A1) <ul style="list-style-type: none"> – depth of 36 inches <p>Other Non-Munitions Related Debris</p> <ul style="list-style-type: none"> • Nails, metal debris, stakes, wires, and spikes <p>At the conclusion of the anomaly investigation, all items leaving the site were documented as MDAS in accordance with Navy directives and released for recycling at a local recycler (Bering Sea Eccotech, 2017). Based on the 2014 DGM survey and the subsequent 2015/2016 investigation of 1,483 anomalies, it is believed that approximately 1,300 anomalies remain in the central wooded portion of the site.</p>
2015 Soil Investigation	<p>In conjunction with the first mobilization of the 2015/2016 anomaly investigation, a soil investigation was conducted by CH2M HILL in August/September 2015 to determine if the metallic anomaly sources present at UXO-0001 had potentially released metals to the environment. Soil sampling included the collection and analysis of 40 soil samples in the central wooded portion of the site (depths ranged from 2 to 36 inches) at locations immediately adjacent to metallic anomaly sources classified as MEC and MPPEH. Ten reference samples from various depth intervals of 0-1 foot, 1-2 foot and 2-3 foot also were collected at locations not associated with metallic anomaly sources for purposes of performing data comparisons. The site and reference sample analytical data sets were compared to one another, and both data sets were also compared to background metals concentrations from nearby NAS Patuxent River. The analytical data were evaluated by preparing box and whisker plots and performing a central tendency comparison for each constituent. These statistical comparisons concluded that: 1) the site and reference soil sample data sets were statistically similar; 2) the median and/or the interquartile range of concentrations for most of the metallic constituents were less than the NAS Patuxent River soil background values; and 3) constituents for which these comparisons are somewhat inconclusive, such as thallium, are not likely to have been sourced by metallic items located within UXO-0001. As a result, it was determined that the identified metallic anomalies are not considered to have been a significant source of metals release to the environment. In addition, many of the metallic anomaly sources have been removed from the site, so these items are no longer sources of a potential future release (CH2M, 2016).</p>

3 Site Characteristics

UXO-0001 site at Webster Field is located in St. Mary's County. St. Mary's County lies within the humid subtropical climate zone, surrounded on three sides by bodies of water, including the Potomac River and Chesapeake Bay. Summers are hot and humid, with frequent afternoon thunderstorms. Winters are mild to cool (Tetra Tech NUS, 2010). Webster Field lies in the St. Mary's River Watershed of the Lower Potomac River. St. Inigoes Creek borders Webster Field to the north and St. Mary's River borders Webster Field to the west. The topography of Webster Field varies from gently rolling to flat. In general, the topography of the facility tends to slope gently from the northeast to the southwest towards St. Mary's River, which empties into the Potomac River. The elevation at the east end of the northeast/southwest trending runway is 21 feet above mean sea level (msl), and the elevation is 12 feet above msl at the west end of the runway near St. Mary's River (Tetra Tech NUS, 2010).

There is no information regarding specific geology and hydrogeology for UXO-0001; however, Lowland Deposits of Quaternary Age (Pleistocene to Recent) crop out at Webster Field and regional hydrogeologic information was included in the PA. The Lowland Deposits consist of gravel, sand, silt, and clay with the unconsolidated sediments of the Southern Maryland region gradually becoming deeper and thicker to the southeast. Geologic characteristics of the deposits include medium- to coarse-grained sand and gravel; cobbles and boulders near base; reworked Eocene glauconite; varicolored silts and clays; brown to dark gray lignitic silty clay; estuarine to marine fauna in some areas (includes in part Pamlico, Talbot, Wicomico and Sunderland Formations of earlier reports); and a thickness from 0 to 150 feet (Tetra Tech NUS, 2010). The surficial aquifer (encountered at the site at a depth of less than 1 foot) does not provide an adequate supply for large users, therefore, the majority of groundwater use in the region is from the major confined aquifers.

The nature and extent of potential MEC and MPPEH at UXO-0001 were evaluated between 2012 and 2016 through the use of DGM techniques, anomaly investigations/removal actions, and a soil sampling/analysis effort. Numerous subsurface anomalies were identified, and a limited number of MEC and MPPEH items were recovered from the site; MEC and MPPEH were not identified on the ground surface. Based on the previous DGM surveys, anomaly investigations, and removal actions, it is believed that approximately 1,300 subsurface anomalies remain in the central

wooded portion of the site. Based on an evaluation of the soil analytical data collected in 2015 from UXO-0001, the identified metallic anomalies are not considered to have been a significant source of metals release to the environment. In addition, many of the metallic anomaly sources have been removed from the site, so these items are no longer sources of a potential future release. Therefore, no further action is recommended with regard to further environmental sampling at the site.

4 Summary of Site Risks

The environmental characterization component/risk assessment of the RI/FS was conducted in 2015 to determine if the metallic anomaly sources identified during the DGM surveys at UXO-0001 had potentially released metals to the environment. These risk assessments were used to evaluate potential risks to human and ecological receptors exposed to surface and subsurface soil at UXO-0001. A detailed discussion of the risk evaluation processes and findings are presented in the RI/FS report (CH2M, 2019).

Human Health Risk Assessment

A preliminary screening HHRA was performed to determine whether soil contaminants associated with past activities resulted in risk to human receptors at UXO-0001. The soil data collected in 2015 for this preliminary screening were compared to USEPA residential soil Regional Screening Levels (RSLs). RSLs based on noncarcinogenic effects were based on a target hazard quotient of 0.1 to account for exposure to multiple constituents with the same target organ or target effect. RSLs based on carcinogenic effects were based on a target excess lifetime cancer risk of 1×10^{-6} . For an explanation of the HHRA process, see the information box.

Based on current and potential future land uses of UXO-0001, potential human receptors include current/future Navy personnel (maintenance workers/construction workers), current/future authorized visitors/contractors, current/future unauthorized adult/adolescent trespassers, future Navy personnel (industrial workers), and hypothetical future residents (unlikely scenario). The future residential land use scenario evaluated by the risk assessment is conservative and was assumed to evaluate potential risks relative to unrestricted land use.

The primary exposure route for MEC and/or MPPEH to potential human receptors at the site is direct exposure to MEC and/or MPPEH in subsurface soil during construction or other intrusive activities. MEC and MPPEH have not been identified on the ground surface.

What is Human Health Risk and How Is It Calculated?

An HHRA estimates the likelihood of health problems occurring if no cleanup action were taken at a site. This is also referred to as “baseline risk.” HHRA’s are conducted using a stepped process (as outlined in Navy and EPA HHRA policy and guidance). To estimate baseline risk at a site, the Navy performs the following four-step process:

Step 1: Data Collection and Evaluation

Step 2: Exposure Assessment

Step 3: Toxicity Assessment

Step 4: Risk Characterization

During Data Collection and Evaluation (**Step 1**), the concentrations of chemicals detected at a site are evaluated, including:

- Identifying and evaluating area(s) where site-related chemicals may be found (source areas) and at what concentrations
- Evaluating potential movement (transport) of chemicals in the environment
- Comparing site concentrations to risk-based screening levels to determine which chemicals may pose the greatest threat to human health (called “constituents of potential concern” [COPCs]). Constituents are not excluded from the risk assessment process if they are within the range of background.

In **Step 2**, the Exposure Assessment, potential exposures to the COPCs identified in Step 1 are evaluated. This step includes:

- Identifying possible exposure **media** (for example, soil, air, groundwater, surface water, and/or sediment)
- Evaluating if/how people may be exposed (exposure pathways)
- Evaluating routes of exposure (for example, ingestion)
- Identifying the concentrations of COPCs to which people might be exposed
- Identifying the potential frequency and length of exposure
- Calculating a “reasonable maximum exposure” (RME) dose that portrays the highest level of human exposure that could reasonably be expected to occur

In the Toxicity Assessment (**Step 3**), both cancer and non-cancer toxicity values are identified for oral, dermal, and inhalation exposures to the COPCs. The toxicity values are identified using the hierarchy of toxicity value sources approved by EPA.

Step 4 is Risk Characterization, where the information developed in Steps 1 through 3 is used to estimate potential risk to people. The following approach is used:

- Two types of risk are considered: cancer risk and non-cancer hazard.
- The likelihood of developing cancer as a result of site exposure is expressed as an upper-bound probability; for example, a “1 in 10,000 chance.” In other words, for every 10,000 people that might be exposed under the conditions identified in Step 2, one additional case of cancer may occur as a result of site exposure. Unacceptable risk exists when the Excess Lifetime Cancer Risk of 1×10^{-4} is exceeded.
- For non-cancer health effects, a “**hazard index**” (HI) is calculated. The HI represents the ratio between the “reference dose,” which is the dose at which no adverse health effects are expected to occur, and the RME dose for a person contacting COPCs at the site. The key concept here is that a “threshold level” (measured as a HI of 1) exists below which no non-cancer health effects are expected to occur. The potential risks from the individual COPCs and exposure pathways are summed and a total site risk is calculated for each receptor. The uncertainties associated with the risk estimates are presented with their effects on the conclusions of the HHRA are discussed.

What is Ecological Risk and How Is It Calculated?

An ERA is conceptually similar to an HHRA except that it evaluates the potential risks and impacts to ecological receptors (plants, animals other than humans and domesticated species, habitats [such as wetlands], and communities [groups of interacting plant and animal species]). ERAs are conducted using a tiered, step-wise process (as outlined in Navy and EPA ERA policy and/or guidance) and are punctuated with Scientific Management Decision Points (SMDPs). SMDPs represent points in the ERA process where agreement among stakeholders on conclusions, actions, or methodologies is needed so that the ERA process can continue (or terminate) in a technically defensible manner. The results of the ERA at a particular SMDP are used to determine how the ERA process should proceed, for example, to the next step in the process or directly to a later step. The process continues until a final decision has been reached (that is, remedial action if unacceptable risks are identified, or no further action if risks are acceptable). The process can also be iterative if data needs are identified at any step; the needed data are collected and the process starts again at the point appropriate to the type of data collected.

An ERA has three principal components:

1. Problem Formulation establishes the goals, scope, and focus of the ERA and includes:

- Compiling and reviewing existing information on the habitats, plants, and animals that are present on or near the site
- Identifying and evaluating area(s) where site-related chemicals may be found (source areas) and at what concentrations
- Evaluating potential movement (transport) of chemicals in the environment
- Identifying possible exposure media (soil, air, water, sediment)
- Evaluating if/how the plants and animals may be exposed (exposure pathways)
- Evaluating routes of exposure (for example, ingestion)
- Identifying specific receptors (plants and animals) that could be exposed
- Specifying how the risk will be measured (assessment and measurement endpoints) for all complete exposure pathways

2. Risk Analysis that includes:

- Exposure Estimate – An estimate of potential exposures (concentrations of chemicals in applicable media) to plants and animals (receptors). This includes direct exposures of chemicals in site media (such as soil) to lower-trophic-level receptors (organisms low on the food chain such as plants and insects) and upper-trophic-level receptors (organisms higher on the food chain such as birds and mammals). This also includes the estimated chemicals dose to upper-trophic-level receptors via consumption of chemicals accumulated in lower food chain organisms.
- Effects Assessment – The concentrations of chemicals at which an adverse effect may occur are determined.

3. Risk Calculation or Characterization:

- The information developed in the first two steps is used to estimate the potential risk to plants and/or animals by comparing the exposure estimates with the effects threshold.
- Also included is an evaluation of the uncertainties (that is, potential degree of error) associated with the predicted risk estimate and their effects on ERA conclusions.

A total of 6 surface soil samples and 44 subsurface soil samples were collected and analyzed for TAL metals and cyanide. Several chemicals of potential concern (COPC) were identified for human receptors at the site. Six COPCs (aluminum, arsenic, cobalt, iron, manganese, and thallium) were identified in at least one surface soil sample and one subsurface soil sample. Human Health analytical sample results are presented in the RI/FS report (CH2M, 2019).

Ecological Risk Assessment

A preliminary screening ERA was performed to determine whether soil contaminants associated with past activities resulted in risk to ecological receptors in habitats at UXO-0001. Soil data collected in 2015 were compared to the USEPA Ecological Soil Screening Levels (Eco-SSLs) and where Eco-SSLs were not available for constituents, USEPA Biological Technical Assistance Group (BTAG) soil screening values or the Canadian of Ministries of the Environment (CCME) soil screening value for chromium were used. For an explanation of the ERA process, see the information box.

Based on current and potential future land uses of UXO-0001, potential ecological receptors to MEC and/or MPPEH include upper trophic receptors (birds/mammals) and lower trophic receptors (soil invertebrates/terrestrial plants); however, there does not appear to be a complete exposure pathway for ecological receptors because the munitions-related items found to date have been mainly in the subsurface. Therefore, ecological receptors are typically not applicable to MEC/MPPEH exposure, other than potential threatened and endangered species that need to be considered when evaluating remedial alternatives.

As stated above in the HHRA section, 6 surface soil samples and 44 subsurface soil samples were collected and analyzed for TAL metals and cyanide. Several COPCs were identified for upper and lower **trophic level** receptor populations. The identified COPCs are cobalt, cyanide, manganese, mercury, thallium, and vanadium in at least one surface soil sample, and cobalt, copper, cyanide, manganese, mercury, thallium, vanadium, and zinc in at least one subsurface soil sample. Ecological analytical sample results are presented in the RI/FS report (CH2M, 2019).

Based on screening results, the known contamination history, and information considered as part of the risk evaluation, it was determined that the identified metallic anomalies were not considered to have been a significant source of metals/COPCs release to the environment.

As stated above in **Table 1 – 2015 Soil Investigation**, statistical comparisons with site soil samples, reference soil samples, and background metals concentrations from nearby NAS Patuxent River concluded that: 1) the data sets were statistically similar; 2) the median and/or the interquartile range of concentrations for most of the metallic constituents were less than the NAS Patuxent River soil background values; and 3) constituents for which these comparisons were somewhat inconclusive, such as thallium, were not likely to have been sourced by metallic items located within UXO-0001. In addition, many of the metallic anomaly sources have been removed from the site, so these items are no longer sources of a potential future release.

5

Scope and Role of Response Actions

In cooperation with MDE, and in accordance with applicable guidance and consultation, the Navy performed investigations at UXO-0001 to evaluate the nature and extent of MEC/MPPEH and associated contamination and to assess the potential risks to human health and the environment. Human health risks would come from direct exposure to MEC/MPPEH in the subsurface soil during construction or other intrusive activities. No unacceptable ecological risks were identified from potential exposure to MEC/MPPEH since MEC/MPPEH have not been identified on the ground surface. Although MEC/MPPEH has been removed across the vast majority of the site, the Navy evaluated remedial alternatives to address remaining MEC/MPPEH at UXO-0001 since there is the potential for MEC/MPPEH to be present in areas where it was not previously removed or where it may have become exposed from erosion. The preferred alternative presented in this PRAP is intended to address explosive hazards and ensure that land use within the site boundaries remains the same. The response action is intended to be the final remedy of UXO-0001, and it does not include or affect any other sites under the CERCLA process.

6 Remedial Action Objectives

The **Remedial Action Objectives (RAO)** consist of specific goals for protecting human health, and they also reflect the potential for MEC and MPPEH to remain at UXO-0001. Based on the current and potential future land uses, RAOs were developed to be protective of current and potential future receptors, in accordance with the current land use and potential future land use, when evaluating potential remedial alternatives. The RAOs for UXO-0001 are as follows:

- Reduce the explosive hazard associated with MEC/MPPEH compatible with the current and anticipated future land uses.
- Reduce the potential for exposure of human receptors to MEC and MPPEH.

7 Summary of Site Remedial Alternatives

This section presents a summary of the three remedial alternatives evaluated to meet the RAOs for UXO-0001 described above. These remedial alternatives, which were developed by assembling remedial technologies and representative process options after the initial screening process, were based on site-specific considerations primarily related to the nature of MEC and MPPEH observed at UXO-0001, as well as the site physical characteristics. A detailed analysis of the remedial alternatives is presented in the RI/FS report (CH2M, 2019).

Alternative 1: No Action

The “No Action” alternative, required by the NCP, consists of performing no remedial action and is the baseline against which the effectiveness of other remedial alternatives was compared. Under this alternative, no control or remediation would be implemented at the site. It is not a viable option considered for this site.

Alternative 2: Partial Land Use Controls and Partial No Further Action

Alternative 2 involves using Land Use Controls (LUCs) in the central wooded portion of the site to discourage access to the site, performing site inspections, munitions sweeps, and removing MEC/MPPEH that may have been exposed at the surface. Alternative 2 will designate the open areas in the north and southeast portions of the site to “No Further Action” (NFA) status. The conceptual layout for Alternative 2 is shown on **Figure 3**.

The major components and assumptions for Alternative 2 are:

- LUCs consisting of engineering controls (e.g., signage) and institutional controls (e.g., deed notations to identify the requirements of the alternative) will be implemented in the central wooded portion of the site to control future access, provide a mechanism for informing potential trespassers of the access restrictions, and reduce the potential for uncontrolled human contact with MEC/MPPEH. The open areas in the north and southeast portions of the site (approximately 9.6 acres) will have “NFA” status because all subsurface anomalies have been removed to depth.
- Approximately 16 signs will be installed to restrict access. However, the actual number and locations of signs installed will be provided in the LUC Remedial Design (LUC RD) based on such factors as site conditions and accessibility by vehicles. The LUC RD will be prepared upon completion of the ROD and will be subject to regulatory review and approval.
- Annual site inspections will involve documenting site status, verifying the condition of the signs, observing any indications of trespassing, and conducting munitions sweeps with a handheld metal detector of the ground surface in the LUC area. Munitions sweeps shall be done every year for the next five years leading up to the first 5-Year Review for UXO-0001 then only every five years just prior to the subsequent 5-Year Review. Site inspections and the associated surface sweeps shall be conducted in the spring after the freeze-thaw of the winter months. If needed, subsequent activities will involve repairing any damaged signs, replacing any missing or damaged signs, and removing any MEC/MPPEH that may have been exposed at the surface.
- 5-year reviews will be conducted for 30 years.
- GSR Navy BMPs to be considered with this alternative will include carpooling to and from the work site and use of electronic documents.

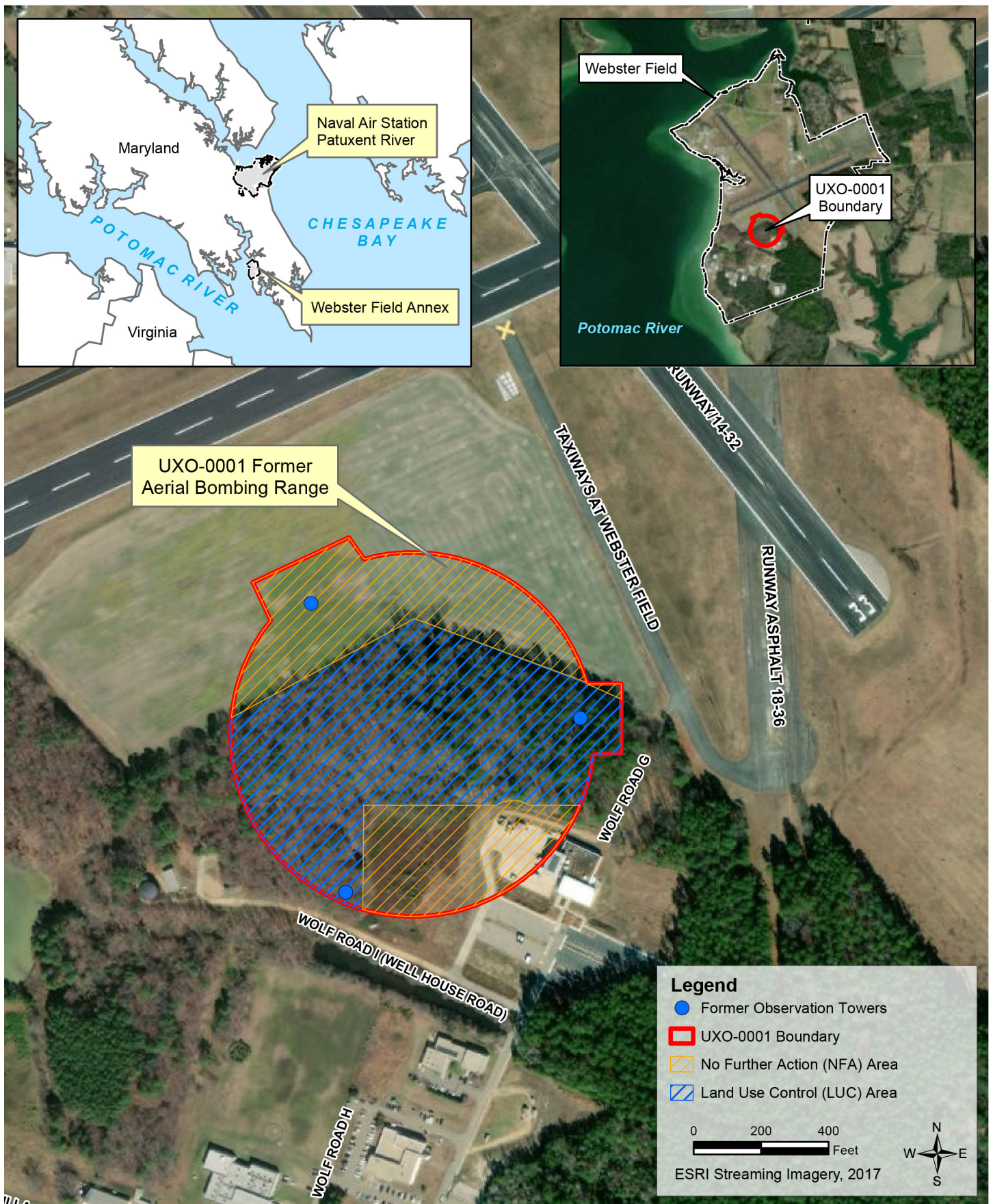


Figure 3 – Alternative 2: Partial LUCs and Partial NFA

Alternative 3: Subsurface Anomaly Removal, Partial Land Use Controls, and Partial No Further Action

Alternative 3 has the same characteristics as Alternative 2 but adds the removal of the remaining subsurface anomalies, which are located in the central wooded portion of the site; therefore, this alternative potentially requires significant vegetation removal. Until site restoration activities are complete and the replaced vegetation becomes re-established, there is the potential for increased trespasser access to the current wooded portion of the site. Because MEC may still be present at the site following the planned subsurface anomaly removal actions, the same LUCs, site inspections, and 5-year reviews identified for Alternative 2 will be employed and maintained for Alternative 3. Compared with Alternative 2, Alternative 3 has a significantly higher impact to the physical environment of UXO-0001 and the corresponding safety of air operations at Webster Field due to an increase in the bird-air strike hazard caused by a reduction in vegetative cover. The conceptual layout for Alternative 3 is shown on **Figure 4**.

The major components and assumptions for Alternative 3 are:

- LUCs, annual site inspections, and 5-year reviews will be implemented as described in Alternative 2. The open areas in the north and southeast portions of the site (approximately 9.6 acres) will have NFA status because all subsurface anomalies have been removed to depth.
- Subsurface investigations of numerous anomalies that were identified during previous DGM surveys but have not yet been addressed will be implemented. These anomalies represent potential MEC and MPPEH, and removal will be conducted to the depth of detection. Approximately 1,300 anomalies that potentially represent MEC/MPPEH remain at the site, and they are all located within the central wooded portion (approximately 12.4 acres).
- Removal of the remaining subsurface anomalies at the site will include reacquisition, vegetation clearance (if required), identification, excavation, removal, treatment (if required), disposal, data tracking, and site restoration (vegetation replacement, as needed).
- GSR Navy BMPs for carpooling to and from the work site and use of electronic documents will be considered for the entire project. For the excavation component of this alternative, BMPs related to the following categories will be considered: materials minimization, equipment use and buildings, waste minimization, monitoring program, and site restoration (includes erosion control).

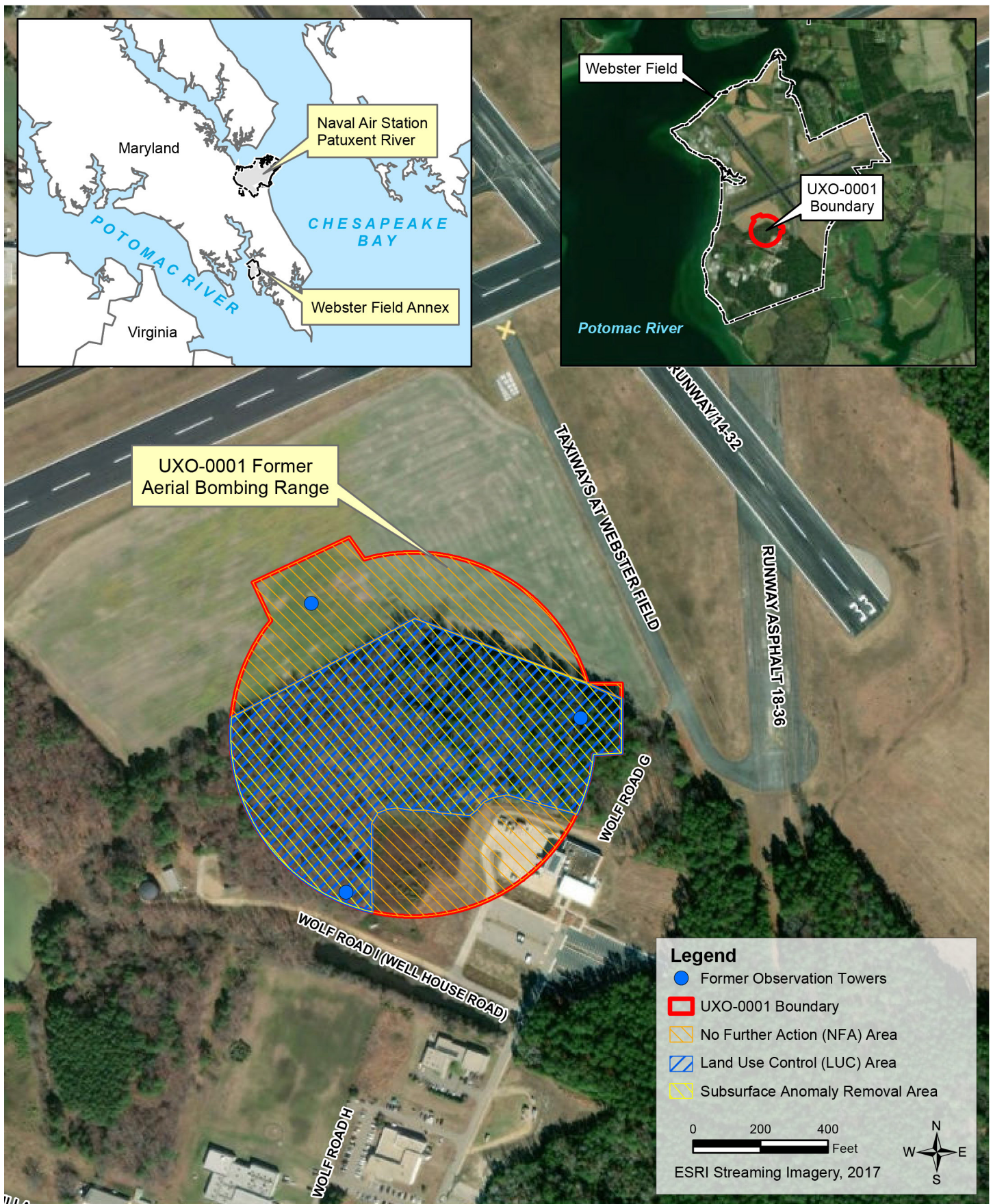


Figure 4 – Alternative 3: Subsurface Anomaly Removal, Partial LUCs, and Partial NFA

8 Evaluation of Remedial Alternatives

The NCP outlines the approach for comparing remedial alternatives using nine **evaluation criteria** including two threshold criteria which must be met, five balancing criteria, and two modifying criteria, to facilitate a comparison of the relative performance of the alternatives and to provide a means to identify their advantages and disadvantages. The criteria are:

- Threshold:
 1. Overall protection of human health and the environment
 2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
- Balancing:
 3. Long-term effectiveness and permanence
 4. Reduction of toxicity, mobility, and volume
 5. Short-term effectiveness
 6. Implementability
 7. Cost
- Modifying:
 8. State acceptance
 9. Community acceptance

The remedial alternatives presented in Section 7 were evaluated in a detailed analysis during the RI/FS relative to the threshold and balancing criteria to help select a preferred alternative. Modifying criteria (i.e., state acceptance and community acceptance) will be evaluated after receipt of the public's comments on this Proposed Plan during the 30-day comment period.

Table 2 – Comparison of Analysis of Remedial Alternatives

Criteria	Alternative 1	Alternative 2	Alternative 3
	No Action	Partial Land Use Controls, Partial No Further Action	Subsurface Anomaly Removal, Partial Land Use Controls, Partial No Further Action
THRESHOLD CRITERIA			
Overall Protection of Human Health and the Environment	X	✓	✓
Compliance with ARARs	X	✓	✓
BALANCING CRITERIA			
Long-term Effectiveness and Permanence	○	●	●
Reduction of Toxicity, Mobility, or Volume through Treatment	○	●	●
Short-term Effectiveness	○	●	○
Implementability	○	●	●
Cost (Total Present Value)	\$ –	\$447,000	\$1,359,000

✓ – threshold criterion met X – threshold criterion not met

● – excellent ● – good ● – satisfactory ● – poor ○ – not met

Table 2 summarizes a qualitative assessment of how each alternative satisfies the evaluation criteria, and how the alternatives compare to each other based on the criteria. The following text provides explanation of the specific ARARs for UXO-0001 and further evaluation of the alternatives to overall protection of human health and the environment, and compliance with the ARARs.

A detailed list of ARARs for UXO-0001 is included in the RI/FS report (CH2M, 2019). ARARs can be action-specific, chemical-specific, or location-specific. The action-specific ARARs for UXO-0001 include IDW sampling, a storm water pollution prevention plan, and munitions management. There are no chemical-specific ARARs for UXO-0001. The location-specific ARARs for UXO-0001 are to prevent disturbance of migratory birds (if observed), meet the substantive requirements of Federal and Maryland wetland regulations, and to maintain compliance with State of Maryland policies for activities within Maryland coastal zones. Alternative 1 does not meet the RAOs or the ARARs and would not provide protection from future risks; therefore, it will not be discussed further in this analysis. Alternative 2 and 3 both meet the RAO and ARARs and would provide protection from future risks. While Alternative 2 and Alternative 3 both provide a permanent remedy at the site, Alternative 3 has a greater impact on the physical environment due to clearing of vegetation for anomaly removal. Alternative 3 also would take longer to implement and is more cost, whereas Alternative 2 is not.

Based on the comparison of Alternatives 2 and 3 against the threshold and balancing criteria, Alternative 2 is the most viable option for UXO-0001. This Alternative provides protection of human health and the environment, complies with ARARs, achieves short-term and long-term effectiveness, reduces the toxicity, mobility, and volume through treatment, is easy to implement, and is the most cost effective.

9 Preferred Remedial Alternative

The preferred remedial alternative at UXO-0001 is Alternative 2, "Partial Land Use Controls and Partial No Further Action." This alternative is recommended because it protects human and environmental receptors, causes the least impact to the environment, and it is more cost-effective than the anomaly removal alternative.

The preferred alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. The Navy expects the preferred alternative to satisfy the following statutory requirements of CERCLA § 121(b): (1) to be protective of human health and the environment; (2) to comply with ARARs (or justify a waiver); (3) to be cost-effective; (4) to utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) to satisfy the preference for treatment as a principle element, or explain why the preference for treatment will not be met. The preferred remedial alternative can change in response to public comments or new information. The Navy will select the final remedy, and the MDE will provide final concurrence with the selected remedy, following review of all comments received during the public comment period.

The estimated **total present worth cost** for Alternative 2 is approximately \$447,000 based on Class 4 Rough Order-of-Magnitude (ROM) Cost Estimates per the AACE Cost Estimate Classification and are expected to be within the -30% to +50% accuracy range of the actual project costs.

10 Community Participation

Community participation is a key part of the decision-making process for UXO-0001. Local individuals and anyone interested in UXO-0001 are encouraged to provide input on the PRAP for this site by using the public comment period to identify any concerns. The Navy will summarize and respond to submitted information and comments in the Responsiveness Summary section of the ROD.

Public Comment Period and Public Meeting

The public comment period provides the public time to review and comment on the information provided in the PRAP. The 30-day comment period will begin on September 6, 2019, and end on October 5, 2019. A **public meeting** will be held at October 8, 2019, at the Frank Knox Employee Development Center, Building 2189, Room 100, located adjacent to NAS Patuxent River Gate 2. Anyone interested in UXO-0001 is invited to attend this meeting to learn more about the preferred remedial alternative of "Partial Land Use Controls and Partial No Further Action" for the site, to ask questions, and to submit comments.

To submit written comments or information regarding Webster Field Annex UXO-0001, please contact one of the following representatives:

Public Affairs Officer, NAS

Attn: Mr. Patrick Gordon
Public Affairs Officer, NAS
22268 Cedar Point Road
Building 409
Patuxent River, MD 20670-1154
301-757-3343

Maryland Department of the Environment

Attn: Mrs. Jenny Herman
Land Restoration Program/
Land and Materials Administration
1800 Washington Boulevard Suite 625
Baltimore, MD 21230-1719

Comments submitted in writing must be postmarked no later than October 5, 2019. Based on comments or new information received, the Navy and MDE may modify the PRAP.

Record of Decision

Following the public comment period, the Navy and MDE will decide whether the preferred alternative should be modified or whether another alternative should be selected for UXO-0001. If the modifications substantially change the PRAP, then additional public comment may be solicited. If there is no modification needed to the PRAP, then the Navy and MDE will prepare and sign a ROD. All comments received during the public meeting and comment period will be summarized, and responses will be provided in the Responsiveness Summary section of the ROD. The ROD is the document that will present the selected remedy and will be included in the Administrative Record file.

Available Information

The Administrative Record contains all the information used to select the preferred remedy for UXO-0001, and provides important background and site investigation information in more detail than is presented in this PRAP. The following is a list of the primary documents in the Administrative Record where pertinent site-related information can be obtained:

- AGVIQ-CH2M HILL. 2012. After Action Report, UXO-0001 Aerial Bombing Range, P140 Construction Area Anomaly Removal Action, Webster Field Annex, St. Inigoes, Maryland. September.
- Bering Sea Eccotech. 2017. Contract Completion Report, Munitions Response Program, Remedial Action, Naval Air Station Patuxent River, Webster Annex, St. Inigoes, Maryland, Munitions Response Site UXO/MRS 001. February.
- CH2M. 2012. Technical Memorandum: Expanded Preliminary Assessment, Former Aerial Bombing Range, Webster Field Annex, St. Inigoes, Maryland. July.
- CH2M. 2016. Technical Memorandum: Soil Analytical Results Evaluation, Munitions Response Site UXO-0001, Naval Air Station Patuxent River, Bombing Range, Webster Field Annex, St. Inigoes, Maryland. July.
- CH2M. 2019. Final Remedial Investigation/Feasibility Study Munitions Response Site (MRS) UXO-0001 Former Aerial Bombing Range. Prepared for NAVFAC Washington. August.
- Tetra Tech NUS. 2010. Preliminary Assessment for Munitions Response Program, Webster Field Annex, St. Inigoes, Maryland. September.

The Community Involvement Plan and final technical reports are available to the public at the following locations:

Naval Air Station Patuxent River Library
22269 Cedar Point Road, Building 407
Patuxent River, MD 20629

301-342-1927

Hours are:

Monday–Thursday: 8:00 a.m.–3:30 p.m.

Friday: 10:00 a.m.–2:00 p.m.

Closed Saturday and Sunday

**St. Mary’s County Public Library,
Lexington Park Branch**

21677 FDR Boulevard
Lexington Park, MD 20653

301-863-8188

Hours are:

Monday–Thursday: 9:00 a.m.–8:00 p.m.

Friday and Saturday: 9:00 a.m.–5:00 p.m.

Closed Sunday

**NAS Patuxent River Environmental Restoration
Program Public Website:**

https://www.navfac.navy.mil/products_and_services/ev/products_and_services/env_restoration/installation_map/navfac_atlantic/washington/nas_patuxent_river.html

For more information about the ER Program, please contact:

Public Affairs Officer – NAS

Attn: Mr. Patrick Gordon

22268 Cedar Point Road

Building 409

Patuxent River, MD 20670-1154

301-757-3343

Administrative Record: A record made available to the public that includes all information considered and relied on in the selection of a remedy for a site.

ARAR – Applicable or Relevant and Appropriate Requirements: Federal or state environmental rules and regulations. ARARs can be classified as one of three types: chemical-specific for the contaminants in question; location-specific for the type of environment in which the site is located (e.g., wetland, floodplain); and action-specific for the particular remedial actions contemplated.

Aquifer: Rock or sediment in a geologic formation, group of formations, or part of a formation that is saturated with water and sufficiently permeable to conduct groundwater and yield economically sufficient quantities of water to wells or springs.

Carcinogenic Risk: The risk that a person will develop cancer, expressed as a number reflecting the increased chance that a person will develop cancer if exposed to a contaminant. For example, the acceptable carcinogenic risk range for Superfund sites is 1×10^{-4} to 1×10^{-6} , meaning there is 1 additional chance in 10,000 (1×10^{-4}) to 1 additional chance in 1 million (1×10^{-6}) that a person will develop cancer based on a specific exposure scenario (such as recreational contact with groundwater during each visit).

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act (1980): CERCLA, also known as the Superfund Law, as amended by the Superfund Amendments and Reauthorization Act of 1986, provides the authority and procedures for responding to releases of hazardous substances, pollutants, and contaminants from inactive hazardous waste disposal sites.

Conceptual Site Model: The conceptual site model defines the various sources of chemicals and metals, release mechanisms, and migration pathways for contaminants at the site. The conceptual site model is used to evaluate the potential exposure of human or ecological receptors to COPCs.

Contamination: Any physical, biological, or radiological substance or matter that, at a great enough concentration, could have an adverse effect on human health or the environment.

COC – constituent of concern: Compound or analyte present at concentrations that pose a risk to human health and/or the environment.

COPC – constituent of potential concern: Compound or analyte identified early in the risk assessment process for more detailed evaluation to determine the potential for risk to exposed organisms.

CTE – Central Tendency Exposure: Portrays the average, rather than the upper limit, exposure that could be reasonably expected to occur.

ER Program – Environmental Restoration

Program: The term used to describe the Navy's environmental program.

ERA – Ecological Risk Assessment: An evaluation of the potential health risks posed to plants and animals from exposure to existing levels of contamination present at a site.

Evaluation Criteria: The NCP describes nine objectives or criteria against which each remedial alternative must be assessed for the comparative analysis of alternatives. The nine criteria are: overall protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; cost; state acceptance; and community acceptance.

FS – Feasibility Study: The study that develops and analyzes the potential cleanup alternatives for a site. The feasibility study usually recommends selection of a cost-effective alternative.

HHRA – Human Health Risk Assessment: An evaluation of the potential health risks posed to people from exposure to existing concentrations of chemicals and metals detected at the site.

HI – Hazard Index: The HI provides a measure of the non-carcinogenic health risk posed to an individual by the presence of multiple substances at one site, or exposures to the same chemicals through multiple media and pathways. The HI represents the ratio between a reference dose for a particular exposure, at which no adverse effects are anticipated to occur, and the anticipated dose for that same exposure at a particular site. The HI may be summed by each specific target organ or critical effect.

Media: Air, surface soil, subsurface soil, groundwater, surface water, or sediments that are the subject of regulatory concern, investigation, and cleanup.

MDE – Maryland Department of the Environment: The Maryland state government agency responsible for enforcing State environmental regulations.

NAS – Naval Air Station

Navy – Department of the Navy

NCP – National Oil and Hazardous Substances

Pollution Contingency Plan: The NCP provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants.

Non-carcinogenic hazards: Risks to human health from constituents that cause adverse health effects other than, or in addition to, inciting cancer, as measured by the Hazard Index.

NPL – National Priorities List: EPA’s list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response. The list is based primarily on the score a site receives on the Hazard Ranking System (HRS). EPA is required to update the NPL at least once per year.

PRAP – Proposed Remedial Action Plan: A plan in which the lead agency summarizes for the public the preferred cleanup strategy for a site. The PRAP is issued for public review in order to satisfy the public participation requirement of the Superfund Amendments and Reauthorization Act. The PRAP may be prepared either as a fact sheet or as a more detailed document.

Public comment period: A time for the public to review and comment on various documents and actions taken, either by the Navy or MDE. A minimum 30-day comment period is held to allow community members to review the Administrative Record file and review and comment on the PRAP.

Public meeting: The meeting where the lead agency presents and discusses the PRAP, and accepts written and oral comments and questions from the community members.

RAO – Remedial Action Objective: General cleanup objectives designed to protect human health and the environment.

RME – Reasonable Maximum Exposure: This evaluation portrays the maximum level of human exposure reasonably expected to occur.

Responsiveness Summary: A summary of oral and written public comments received by the lead agency during a comment period and the responses to the comments prepared by the lead agency. The Responsiveness Summary is an important part of the ROD, highlighting community concerns for decision makers.

RI – Remedial Investigation: An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site and to evaluate the potential risks posed by exposure of people, plants, and animals to the contamination.

ROD – Record of Decision: The document that explains which cleanup alternative(s) will be used at an NPL site. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns. The ROD explains the remedy selection process and is issued by the Navy and MDE following the public comment period.

Total Present Worth Cost: The total present value cost assumes the entire amount of money required to implement the alternative is invested today and the money accumulates interest over the life span of the alternative. Total present value costs take into consideration the interest rate and timeframe of the alternative.

Trophic Level: The trophic level of an organism refers to an organism’s position in the food chain.

USEPA – United States Environmental Protection

Agency: The governmental agency that leads the nation’s environmental science, research, education, and assessment efforts, and enforcement of environmental laws and regulations.

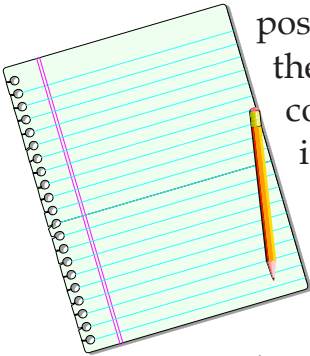
Wetland: As defined by the U.S. Army Corps of Engineers, wetland are lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Please print or type your comments here.

Mark Your Calendar for the Public Comment Period

Public Comment Period
September 6 to October 5, 2019

Submit Written Comments



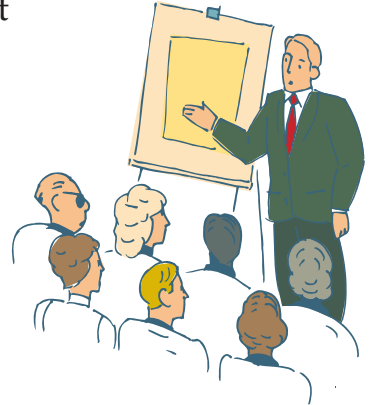
Written comments must be postmarked no later than the last day of the public comment period, which is October 5, 2019. Based on the public comments or any new information obtained, the Navy and the USEPA may modify the Preferred Alternative. This

page of the Proposed Remedial Action Plan may be used to provide comments, although use of the form is not required. If the form is used to submit comments, please fold page, seal, add postage where indicated, and mail to addressee as provided.

Attend the Public Meeting

October 8, 2019, 5:30 p.m.
Frank Knox Employee Development
Building 2189
Room 100

The public comment period will include a public meeting during which the Navy, USEPA, and MDE will provide an overview of the site, previous investigation findings, and previous actions, present the preferred alternative, answer questions, and accept public comments.



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here

Public Affairs Officer – NAS
Attn: Mr. Patrick Gordon
22268 Cedar Point Road
Building 409
Patuxent River, MD 20670-1154